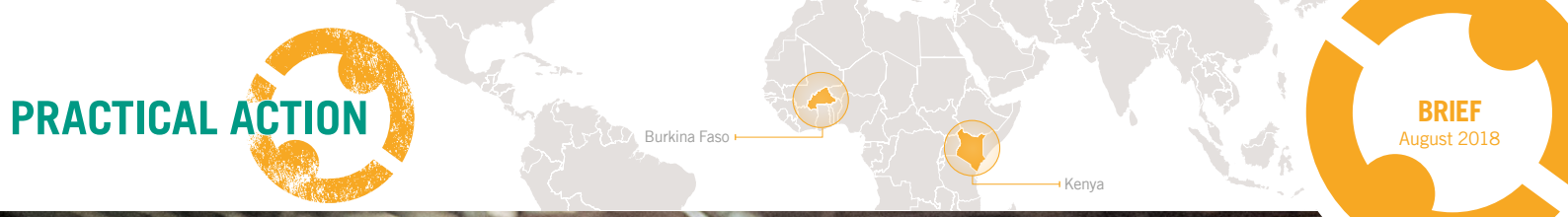
# The Lived Experience of Energy and Forced Displacement

PRACTICAL ACTION




BRIEF
August 2018

# THE LIVED EXPERIENCE OF ENERGY AND FORCED DISPLACEMENT

Produced in partnership with:

PRACTICAL ACTION

THE UNIVERSITY of EDINBURGH

# The Lived Experience of Energy and Forced Displacement

University of Edinburgh
Practical Action

Jamie Cross, Megan Douglas, Craig Martin, Anna Okello, Elizabeth Njoki Charlotte Ray, Sarah Rosenberg-Jansen, Achille Sévérin Lebongo-Onana, Adolphe Yemtim, Arno Verhoeven

## Contents



Contact Sarah Rosenberg Jansen (Sarah.Rosenberg-Jansen@practicalaction.org.uk) or Jamie Cross (Jamie.Cross@ed.ac.uk) for information

# Executive Summary

What is the lived experience of energy access and forced displacement?

These reports present qualitative data sets collected from Kakuma Refugee Camp, Kenya and Goudobou Refugee Camp, Burkina Faso, as part of the UK Economic and Social Research Council (ESRC) funded project, 'Energy and Forced Displacement' led by the University of Edinburgh in collaboration with Practical Action.

Despite vastly different social and geographical contexts, there are many commonalities in the everyday experiences of energy access across refugee camps in Burkina Faso and Kenya.

Understanding the lived experience of energy access in contexts of forced displacement demands engagement with questions of **technology**, **exchange** and **consumption.** Access to and use of technologies are dependent on market and non-market exchange networks, as well as consumer preferences and behaviours. Key lessons from these sites can apply to other regions and contexts of displacement (and whether informal settlements, internationally or internally displaced populations).

Key findings include:

## Technology

- Despite the promotion of newer, more 'efficient' technologies by humanitarian organisations, displaced people frequently prefer familiar, 'tried and tested' energy technologies.
- As people seek to meet their everyday energy needs they frequently modify technologies in creative ways. Refugee camps are sites of innovation in which energy technologies are made and modified to improve their efficiency and convenience of use.

## Exchange

- Refugee camps are spaces of complex formal and informal economic exchange networks that extend far beyond the perimeters of the camp.
- Formal and informal exchange networks are important for access to and information about energy technologies.
- Hosting communities prove vital to maintain, extend and deliver valuable energy services to camps and settlements and it is imperative to continue to include them in humanitarian planning and as beneficiaries of energy interventions.

## Consumption

- Humanitarian energy interventions can create unequal patterns of energy access.
- Socio-economic status maps directly onto access to energy technologies and energy services.

# Introduction, Research Methods and Overview

## Energy and Forced Displacement

The application of humanitarian principles of protection and assistance in contexts of forced displacement have, historically, focused on the provision of shelter, food, water, and sanitation and health. Yet people forcibly displaced by conflict, humanitarian emergency, natural disasters and environmental change are also often left without access to modern energy services.

Over 89% of displaced people living in spaces of temporary or prolonged settlement live without access to electricity and must work to meet their energy needs by whatever means possible [1]. For many displaced people the costs of energy are high. Households in the Goudoubo camp in Burkina Faso need over 100 kilos of firewood per month for cooking alone, and currently do not receive any through humanitarian assistance and so must buy or gather from the surrounding forest. Likewise, 77% households in Kakuma refugee camp in Kenya rely on firewood as their primary cooking fuel and spend $861,210 on fuel for cooking [2] each year. The average displaced household will spend at least $200 per year on fuel, which amounts to $2.1 billion each year worldwide [3]. By comparison, in 2011, UK households spent 4% of their income on energy.

The costs of energy are also high for humanitarian agencies. Electricity in refugee camps is needed to power health centres, administrative buildings, schools and public lighting. Most electricity in refugee camps is provided by diesel generators, which costs humanitarian agencies millions of dollars a year. In 2014-15, the electricity bill to the UNHCR for the Zaatari camp in Jordan was $8.7 million, which led the agency to cut improvised connections for refugee households and businesses [4]. Likewise in Kakuma, one estimate puts the cost of running a generator at a single clinic at $14,000 per month, or $168,000 per year [2].

Access to energy has often been a missing pillar in the humanitarian response to forced displacement. In the rush to respond to crises of forced displacement decisions about energy provision are often uncoordinated, short-term and top-down. As a consequence, the energy needs of millions of displaced people are often met inadequately, inefficiently and without consultation. Energy interventions have often been ad-hoc, focused on the distribution of clean cook stoves, solar lanterns and solar street lights that are designed for generic communities of poor or un-electrified users. Research on energy and displacement has, to date, primarily focused on the role of energy access in improving livelihoods, the use of local natural resources to supplement fuel allowances; or the impact of fuel efficient cook- stoves [4]. Humanitarian organisations have often lacked the resources to research and analyse the significance of light, heat and power in lived experiences of displacement, the technical knowledge involved in everyday engagements with fuels (firewood and diesel) or energy generating and storage

devices (generators, solar panels and batteries), and the role of energy in mediating relationships between households, with host communities or humanitarian agencies. Yet such detail can provide vital information about needs and opportunities as humanitarian agencies work to improving energy access for displaced people or scale-up the impact of sustainable energy interventions.

## Energy and Qualitative Methods

Qualitative, ethnographic or human-centred research methods commit researchers to the study of people in real world settings [5, 6]. Such methods have gained traction in research on energy demand [7, 8, 9, 10] with anthropologists and designers using the systematic observation and recording of routine, tacit and sensory ways that people use artificial lighting, heating, electrical products and devices to analyse energy demand as a social, cultural or material practice [11, 12, 13].

To date, these approaches to energy demand have remained largely focused on the global north. However recent research has pioneered this approach in contexts of extreme global energy poverty, using ethnography to understand and analyse people's everyday use of kerosene, batteries and solar lanterns off the grid [14, 15]. Applied to contexts of forced displacement such approaches can generate new information about the 'affective' or 'atmospheric' qualities of artificial light, wood-fuels, and electric power for health, wellbeing, identity, culture, heritage and security; the role of fuel and electricity in sustaining gender relationships as well as kinship and exchange networks; the personal histories and obligations that shape energy needs; and the lived experience of disparities in energy access.

Recent interest in 'adhocism' [16] 'improvisation' [17] and 'frugal innovation' [18] in design suggest other ways in which ethnographic or human centred approaches to energy can both inform humanitarian interventions and contribute to theory. Attention to the ways that displaced people repair, maintain and fix technologies for lighting, cooking or mobile charging, for instance, can help humanitarian agencies foreground localised, creative and improvised innovations to energy demand that arise from an immediacy of need; rather than reproducing a dependency on standardised solutions that recreate their own challenges of procurement and distribution. Such research offers new conceptual contributions to epistemologies, perspectives and logics in the field of humanitarian design [14]. While the application of qualitative methods within energy research has mainly been concentrated within the Global North there has been little understanding how these methods transfer across different geographical contexts.

## Collaborative Research Design and Methodology

This project - through a 18-month collaboration with the Moving Energy Initiative, its key implementation partner Practical Action, and research teams in Kenya and Burkina Faso - aimed to improve access to sustainable energy for displaced people by bringing traditions of

qualitative research in the arts and social sciences to bear on the way that the humanitarian community understands and responds to their needs for light, heat and power.

Primary research for this project was conducted in refugee camps in Kakuma, Kenya, and Goudoubo, Burkina Faso. These sites were selected both because they allow the project to build directly on a quantitative survey of energy access undertaken for the Moving Energy Initiative and because they allow for a comparison of energy cultures in contexts of protracted settlement as well as recent displacement.

The project assembled two research teams and made decisions about how to apply qualitative field methods to the study of energy in refugee camps through two 7 day training programmes. These programme included presentations, seminar discussions, group based exercises and assigned readings.

The first training programme took place in Burkina Faso in March 2017 introduced research teams to qualitative research approaches to energy drawn from social anthropology and design. The programme introduced ethnographic, human centred, object oriented, visual, participatory and collaborative methods for studying energy practices.

This was followed by pilot studies in Kakuma (Kenya research team) and Goudoubo (Burkina Faso research team).

The second training programme, held in Kenya in May was used to reflect upon the analysis and interpretation of qualitative data, challenges and limitations from the pilot studies, and to reflect upon and refine an appropriate range of methods for use in contexts of forced displacement.

Through these workshops and pilot field visits we established:

1. **A set of common research "objects"**, establishing existing knowledge of research gaps and lacunae, and working from the expertise of our team. These common objects oriented our research going forward, acting as entry points into our field sites, focus points for people's eyes, anchor points that helped to orient conversations with research participants and organising objects that helped to structure the materials.
2. **A set of common methodological practices** for identifying the objects of our research, for a qualitative and ethnographic enquiry into these objects, and for the recording, collection and sharing of "research data".
3. **Reflections** on the implications of these methodological practices for working with communities of displaced people.

Through these workshops and pilot visits we also finalised a **methodological approach focused on everyday energy objects, practices, people and spaces.** Our methodology adapted approaches from the fields of social anthropology, refugee studies, energy studies and design to the unique context and setting of these two refugee camps. Our key methods included

participant/non-participant observation; semi-structured, and open interviews; visual and sensory ethnography; and object biographies.

These methods allowed us to explore:

- the role of everyday energy objects in people's lives and how they use them.
- how social and cultural identities are interwoven into people's use of energy services and technologies.
- how energy produces well-being, identity and heritage through the atmospheric qualities of artificial lighting and cooking.
- the market and non-market exchanges through which wood, kerosene, charcoal, batteries, and diesel circulate.
- ad-hoc 'design' innovations that emerge as people adapt materials, technologies and infrastructures to their energy needs.

Between May and September 2017 the research teams deployed these qualitative methods to collect data on the everyday energy practices of refugees and the local providers of energy goods and services. The data included situated observations, photographs, diagrams and sketches, as well semi-structured interviews, that address the research questions. Between September and December 2017 the research teams analysed the qualitative data, compiling everyday practices around lighting, cooking and charging into case studies and research findings.

Further details on research methods can be found collected and archived on the project website: www.displacedenergy.com

## Crosscutting Themes

Three themes - technology, exchange and consumption - guided data collection and analysis, and to help us to better understand the complexities and dimensions of diverse energy experiences. These crosscutting themes help to provide a comparative understanding of the shared energy needs, priorities and perspectives of refugees across Kakuma and Goudoubo camps.

The lived experiences of energy, including the patterns of access and consumption, cannot be generalized for forcibly displaced people, either between or within Kakuma and Goudoubo. Factors including spatial positioning within the camp, ethnicity, gender, and age all play prominent roles in shaping ones' experience with and understanding of energy materials and supplies. However, the two locations are not without significant commonalities in the energy landscape, challenges and opportunities.

Comparative themes identified between Kakuma refugee camp in Kenya and Goudoubo camp can be grouped around technology, exchange, and consumption.

While this is by no means and exhaustive list, it does reveal similar energy experiences between these two contexts and highlights the importance of a comparative understanding for addressing knowledge gaps.

## Technology

What we mean by technology encompasses both the hardware and software of energy objects, but also the related knowledge and practices surrounding their use. Throughout our research, we saw several technologies in both camps that were examples of energy innovations that improve access and efficiency, and we offer the example of water cooling technologies as an example of local design. Gender plays a prominent role in the experiences of energy technologies in both locations, with similar gendered division of labour around wood fuel usage and cooking technologies. As well, we noticed the widespread practice of "energy stacking", with refugees organizing their energy consumption in response to limited energy generation and storage capacity.

Mobile phone technology, for example, undeniably plays an important role in the energy experience within both Kakuma and Goudoubo camps. Mobile phones facilitate social and economic exchanges that can instantly bridge geographical distances and challenges prohibiting mobility. Refugees rely on their mobile phones for keeping in touch with loved ones back home, organizing remittances, and conducting business. Mobile phones require maintenance and electricity, however, and this has given rise to refugee-run businesses that repair and charge of mobile phones.

In both Kakuma and Goudoubo, we witnessed how gender plays a substantial role in shaping how one experiences energy technologies. Gendered divisions of labour exists in both camps, with women and girls largely responsible for the collection, transportation and usage of woodfuels for cooking. As well, the modification of materials for household efficiency were often the responsibility of women, such as the stitching of fabric around jerrycans or sewing of goat skin for water cooling devices. Despite this skillset, we witnessed fewer women attending technology repair training workshops or operating as entrepreneurs to fix energy technologies like mobile phones or solar lamps.

## Exchange

Formal and informal exchange networks underpinned the energy landscape in both locations, with the sale, trade, negotiation and sharing of goods, services and skill sets mitigating challenges of access and efficiency.  The inability of humanitarian organizations to adequately meet the daily energy needs of refugees has given rise to "informal", yet complex and widespread exchange networks, existing both between refugees and between refugees and hosting communities. A great deal of time is exchanged each day in the collection, storage and utilization of energy materials, particularly for women and girls.

In addition to the exchange of goods and services, we witnessed examples of knowledge and skillsets being shared among camp inhabitants. Sometimes this was “inherited” knowledge, or technical expertise brought with refugees from their home country or self-taught within the camp. Humanitarian organizations provide skills training workshops for both refugees and host members, with the intent of increasing self-sufficiency and promoting livelihood activities. Courses in Kakuma, provided by the Norwegian Refugee Council and Swisscontact, include computer training, motorcycle repair, and electrical wiring. In Goudoubo, training provided by [list here] includes eductation in solar lamp and mobile phone repair. Though these courses may equip refugees with important skillsets for the maintenance and repair of energy technologies, a paucity of necessary tools and supplies throughout the camps limits the capacity for these skillsets to be employed.

In both locations, a great deal of time is spent each day collecting firewood for heating and cooking within the home. This task is predominantly carried out by women and girls. In Kakuma, women make a time-consuming journey to the firewood distribution centre to wait in long ques, then carry their bundles home. In Goudoubo, the UNHCR has discontinued the distribution of firewood, and women spend hours travelling outside the camp boundaries in search of firewood. The obtaining of firewood is experienced differently among women, however, with time burdens disproportionately high for lower income inhabitants. For those who can afford it, entrepreneurs can be paid to assist in the collection and transportation of food and fuel, thus minimizing the investment of time and allowing women to engage in other pursuits. In this way, the exchange of time is directly related to economic exchanges, as informal industries have been created around the lucrative business of lessening time commitments related to the distribution of food and fuel, engaging both refugees and hosting community members. These men and women that provide delivery services often have technologies that allow for quicker, more efficient modes of transportation, such as wheelbarrows, bicycles, or motorbikes.

In both Kakuma and Goudoubo, trade relations between refugees and the hosting communities played a vital role in increasing access to the fuelwood upon which so many individuals are dependent for their daily heating, cooking and lighting needs. Undeniably, there are significant differences in the nature of the refugee-host relationships between the two camps. In Kakuma, such interactions are much more contentious, with camp borders far more enforced; while not always the case, the crossing of borders by refugees to source firewood can result in at times violent confrontations with the Turkana. Perhaps owing to the institutionalization of energy supply roles by government and humanitarian policies, who have given the hosting population the sole legal tender for the provision of of fuelwood to Kakuma camp, firewood is a lucrative business for the Turkana, representing their main source of income. In Goudoubo, we witnessed a much greater fluidity of camp borders, with refugees and hosting members crossing over regularly for social and economic exchanges. Refugees, as well, would travel to hosting communities to participate in marketplace activities, sometimes operating their own businesses outside of the camp. While refugee-host relations are undeniably different between

the two locations, it was nonetheless apparent that engaging in economic exchanges between camp inhabitants and local populations are crucial for increasing access to energy fuels not otherwise provided sufficiently by the humanitarian apparatus and promoting self-reliance as expressed through entrepreneurship.

## Consumption

The energy landscape within Kakuma camps and Goudoubo are similar in that in both locations the principal mandate for energy supply is coordinated and managed by the UNHCR, which partners with a number of other humanitarian organizations. At the level of energy consumption, however, experiences vary significantly, influenced by a multitude of social, economic and cultural factors.

In terms of demographics, both Kakuma and Goudoubo are made up of multiple ethnic communities. In Kakuma, the population mainly originates from South Sudan, Somalia, Ethiopia, and the Democratic Republic of Congo. In Goudoubo, while the population predominantly originates from Mali, a mixture of tribes and languages are represented within the camp borders. Our research found that ethnicity seemed to play a larger role in energy access in Kakuma than it did in Goudoubo. Not only did ones' country of origin determine where in the camp they would be situated, with the camp spatially organized along ethnic lines, but there were noticeable energy access disparities exhibited on an ethnic basis, with substantial differences in the forms and quantities of energy technologies used throughout the camp. In Goudoubo, while ethnicity did not appear to play such a prominent role in determining energy access, the ability to speak the languages [specify] of hosting populations, as well as French and English, increased opportunities for trade and partnership with humanitarian organizations for translation purposes.

The impact of greater connectivity with humanitarian organizations was a prominent factor in shaping the multi-tiered energy experiences in both camps, whether through being hired as a translator for aid workers (or researchers), attending skills training workshops, or even living in closer proximity to organizational headquarters. In Kakuma, for example, we met a man who had purchased his generators from a UNHCR auction and used them to sustain his marketplace business electrical needs, and in Goudoubo, we met several individuals who had sourced sheet metal for personal building projects because of their relationships with other refugees who worked in the UNHCR- implemented artisan market and had control over the supply of abandoned solar cookers being taken apart for their components.

## Lived Experience Reports

We have developed the crosscutting stories of lived experiences within Kakuma and Goudoubo into two country case studies. Each case study reveals similar energy encounters and landscapes despite substantial contextual differences between the two locations.

Across both locations the teams witnessed similarities in the ways in which technology is produced, used and adapted, how energy materials and knowledge is exchanged across complex networks, and how energy is consumed across the camps.

We learned there are complex socio-economic exchange networks between refugees and with the hosting communities, and that energy experiences are largely shaped by ones' status, particularly in terms of gender, ethnicity, and connectivity to humanitarian agencies. Refugees are both producers and consumers of energy, frequently meeting energy needs with entrepreneurial endeavours to fulfil consumption demands not adequately met by humanitarian agencies.

The stories collected in these country case studies illustrate a common desire for improved energy access, and a resilience that results in innovative means of improving efficiency for heating, lighting and cooking.

# References Cited

[1] Lahn, Glada and Grafham, Owen. 2015. Heat, Light and Power for Refugees: Saving Lives, Reducing Costs. London: Chatham House.

[2] ibid.

[3] Williams, S. 2014 Jordan Tries New Tack with Azraq Refugee Camp. *Middle East Eye*: 4 November 2014.

[4] Bailey, Rob, Grafham, Owen, Keating, Michael, Lahn, Glada. 2015. The Moving Energy Initiative: Improving Access to Sustainable Energy for Refugees and Displaced People. London: Chatham House

[5] Otto, T. and Smith, R.C., 2013. Design anthropology: a distinct style of knowing. *Design Anthropology: Theory and Practice*, pp.1-29.

[6] Bichard, J.A. and Gheerawo, R., 2011. The ethnography in design. In *Design Anthropology* (pp. 45-55). Springer Vienna.

[7] Shove, E. and Walker, G., 2014. What is energy for? Social practice and energy demand. *Theory, Culture & Society*, *31*(5), pp.41-58.

[8] Shove, Elizabeth. "Efficiency and consumption: technology and practice." *Energy & Environment* 15, no. 6 (2004): 1053-1065.

[9] Shove, E., Watson, M. and Spurling, N., 2015. Conceptualizing connections Energy demand, infrastructures and social practices. *European Journal of Social Theory*, *18*(3), pp.274-287.

[10] Walker, G., 2014. The dynamics of energy demand: change, rhythm and synchronicity. *Energy Research & Social Science*, *1*, pp.49-55. [11] Wilhite, H., 2013. Energy consumption as cultural practice: implications for the theory and policy of sustainable energy use. *Cultures of energy: power, practices, technologies*, pp.60-72.

[12] Pink, Sarah. *Situating everyday life: Practices and places*. Sage Publications, 2012. [13] Pink, S., 2015. *Doing sensory ethnography*. Sage.

[14] Cross, Jamie. 2015. 'Life without light in rural India: why solar lanterns can't compete with the grid', The Guardian.

[15] Cross, Jamie. 2016. 'Off the grid: Infrastructure and energy beyond the mains' in Penny Harvey, Casper Bruun Jenson and Atsuro Morita, *Infrastructures and Social Complexity* London: Routledge.

[16] Jencks, C. and Silver, N. (2013) *Adhocism: The Case for Improvisation* [expanded and updated edition]. Cambridge, Mass.: MIT Press

[17] Gerber, E. (2007) 'Improvisation Principles and Techniques for Design' *CHI 2007*, 28 April- 3 May, San Jose, California [18] Bahadur, Aditya, and Julian Doczi. 2016. *Unlocking resilience through autonomous innovation*. Working Paper. London: ODI.

[19] P. (2015). Fluid technologies: The Bush Pump, the LifeStraw(R) and microworlds of humanitarian design. *Social Studies of Science*.